

Application No. 10/617,281
Amendment 1.116
December 12, 2007

AMENDMENT TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of the claims:

1. (Currently Amended) A signal receiver having calibration for a frequency dependent I/Q phase error, comprising:

a calibration tone generator for generating a calibration tone for providing in-phase (I) and quadrature phase (Q) tone components; |

I and Q lowpass filters for filtering said I and Q calibration tones for issuing filtered I and Q output tones having an undesired frequency dependent I/Q phase error, at least one of the I and Q lowpass filters having an adjustable characteristic; and |

a correlator for cross correlating said I and Q output tones for providing a cross correlation feedback signal, said cross correlation feedback signal used for adjusting said adjustable characteristic for reducing said frequency dependent I/Q phase error and for minimizing a phase difference between said I output tone and said Q output tone; |

wherein said I and Q lowpass filters include an I analog lowpass filter for providing said I output tone and a Q analog lowpass filter for providing said Q output tone and said adjustable characteristic is a cutoff frequency of at least one of said I and Q analog lowpass filters. |

2. (Cancelled). |

3. (Previously Presented) The receiver of claim 1, wherein:

said calibration tone has a frequency near to a cutoff frequency for said I and Q lowpass filters. |

4. (Cancelled).

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5. (Previously Presented) The receiver of claim 1, wherein:

said cutoff frequency is adjusted by frequency scaling at least one pole and at least one zero of said at least one of said I and Q analog lowpass filters by a certain common factor.

6. (Previously Presented) The receiver of claim 5, wherein:

said certain common scale factor is adjusted by adjusting a channel resistance of at least one transistor.

7. (Cancelled).

8. (Cancelled).

9. (Original) The receiver of claim 1, further comprising:

a frequency downconverter including a local oscillator for providing a complex LO signal and I and Q frequency downconverters using said LO signal for downconverting an input signal having a carrier frequency to I and Q signal components; and wherein:

the calibration tone generator issues a calibration signal as said input signal having a certain frequency offset from said carrier frequency for providing said I and Q calibration tone components in place of said I and Q signal components.

10. (Currently Amended) A method for correcting frequency dependent I/Q phase error, said method comprising:

generating a calibration tone for providing in-phase (I) and quadrature phase (Q) tone components;

filtering said I and Q calibration tones for providing filtered I and Q output tones having undesired frequency dependent I/Q phase error, comprising:

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filtering said I calibration tone component with an I analog lowpass filter for providing said I output tone; and

filtering said Q calibration tone component with a Q analog lowpass filter for providing said Q output tone;

cross correlating said I and Q output tones for providing a cross correlation feedback signal; and

adjusting an adjustable characteristic of at least one of the I and Q filters with said correlation feedback signal for reducing said frequency dependent I/Q phase error comprising adjusting a cutoff frequency of at least one of said I and Q analog lowpass filters and minimizing a phase difference between said I output tone and said Q output tone.

11. (Cancelled).

12. (Previously Presented) The method of claim 10, wherein:

said calibration tone has a frequency near to a cutoff frequency for said I and Q analog lowpass filters.

13. (Cancelled)

14. (Previously Presented) The method of claim 10, wherein:

adjusting said cutoff frequency includes frequency scaling at least one pole and at least one zero of said at least one of said I and Q analog lowpass filters by a certain common factor.

15. (Currently Amended) The method of claim 140, wherein:

frequency scaling includes adjusting a channel resistance of at least one transistor.

16. (Cancelled).

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17. (Cancelled).

18. (Previously Presented) The method of claim 10, further comprising:

frequency downconverting an input signal having a carrier frequency with a complex LO signal to I and Q signal components; and wherein:

generating said calibration tone includes issuing a calibration signal as said input signal having a certain frequency offset from said carrier frequency for providing said I and Q calibration tone components in place of said I and Q signal components.